Amendments to the Claims:

Please amend claims 14-16, 19-21, 24-26, 34-36 and 47-49 as follows:

Listing of Claims:

1. (Original) A method for stopping polishing of a substrate at a desired endpoint, the substrate having a cover layer and an underlying layer under the cover layer, the method comprising the steps of:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic is a temperature of the byproducts, and wherein the monitoring step comprises sensing the temperature of the byproducts; and

stopping removal of material from the substrate when the characteristic of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the desired endpoint of the substrate.

2. (Original) The method of claim 1 wherein the sensing step comprises measuring a temperature of a planarizing liquid flowing off of a polishing pad.

3. (Original) A method for stopping mechanical and chemical-mechanical polishing of a substrate at an endpoint, the substrate having a cover layer and an underlying layer under the cover layer, and the method comprising:

monitoring heat transfer at a planarized surface of the substrate and a polishing component sensitive to heat at the planarized surface by measuring a temperature of the component, and wherein measuring the component temperature comprises sensing a temperature of byproducts produced by polishing the substrate; and

stopping polishing of the substrate when the characteristic of the polishing component is at a predetermined value that indicates the planarized surface is at the desired endpoint.

4. (Original) The method of claim 3 wherein the sensing step comprises measuring a temperature of a planarizing solution flowing off of the polishing pad.

5. (Original) A method for stopping mechanical and chemical-mechanical polishing of a substrate at an endpoint, the method comprising:

detecting a change in heat at a front side of the substrate, the heat at the front side of the substrate being different when a cover layer of the substrate engage a polishing medium than when at least a portion of an underlying layer of the substrate under the cover layer engages the polishing medium, wherein detecting a change in heat at the front side of the substrate comprises sensing a temperature of byproducts produced by polishing the substrate; and

stopping removal of material from the substrate when the heat is a predetermined value that indicates a desired portion of the underlying layer is exposed at the front side of the substrate.

6. (Original) The method of claim 5 wherein the sensing step comprises measuring a temperature of a planarizing solution flowing off of the polishing pad.

7. (Original) A method for stopping mechanical and chemical-mechanical polishing of a substrate at an endpoint, the method comprising:

measuring a temperature of a component sensitive to heat at a front side of the substrate, the component temperature being different when a cover layer of the substrate engages a polishing medium than when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium, wherein measuring the component temperature comprises sensing a temperature of byproducts produced by polishing the substrate; and

stopping removal of material from the substrate when the component temperature changes from the first temperature range to the second temperature range.

8. (Original) A method of polishing a substrate, comprising:

removing material from a front side of the substrate with a polishing medium, the polishing medium being positioned at a planarizing surface of a polishing pad;

monitoring heat at the front side of the substrate, the heat at the front side of the substrate being different when a cover layer of the substrate engages the polishing medium than when at least a portion of an underlying layer of the substrate under the cover layer engages the polishing medium, wherein monitoring the heat comprises measuring a temperature of a component sensitive to heat at the front side of the substrate, the component temperature being a first temperature when the cover layer of the substrate engages the polishing medium and the component temperature being a second temperature when at least a portion of the underlying layer of the substrate engages the polishing medium, and wherein measuring the component temperature comprises sensing a temperature of byproducts produced by polishing the substrate; and

stopping removal of material from the substrate when the heat at the front side of the substrate is a predetermined value that indicates a desired portion of the cover layer has been removed from the substrate.

9. (Original) The method of claim 8 wherein the sensing step comprises measuring a temperature of a planarizing solution flowing off of the polishing pad.

10. (Original) A method of polishing a substrate, comprising:

removing material from a front side of the substrate with a polishing medium, the polishing medium being positioned at a planarizing surface of the polishing pad;

detecting a change in heat at the front side of the substrate, the heat at the front side of the substrate being in a first range when a cover layer of the substrate engages the polishing medium and the heat being in a second range when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium, wherein detecting the change in heat comprises measuring a temperature of a component sensitive to heat at the front side of the substrate, the component temperature being in a first temperature range when the heat at the front side of the substrate is in the first heat range and the component temperature being in a second temperature range when the heat at the front side of the substrate is in the second heat range, and wherein measuring the component temperature comprises sensing a temperature of byproducts produced by polishing the substrate; and

stopping removal of material from the substrate when the heat at the front side of the substrate is in the second range.

11. (Original) The method of claim 10 wherein the sensing step comprises measuring a temperature of a planarizing solution flowing off of the polishing pad.

12. (Original) A method of polishing a substrate, comprising:

removing material from a front side of the substrate with a polishing medium, the polishing medium being positioned at a planarizing surface of a polishing pad;

measuring a temperature of a component sensitive to heat at the front side of the substrate, the component temperature being different when a cover layer of the substrate engages the polishing medium than when at least a portion of an underlying layer of the substrate under the cover layer engages the polishing medium, wherein measuring the component temperature comprises sensing a temperature of byproducts produced by polishing the substrate; and

stopping removal of material from the substrate when the component temperature changes from the first temperature range to the second temperature range.

13. (Original) The method of claim 12 wherein the sensing step comprises measuring a temperature of a planarizing solution flowing off of the polishing pad.

14. (Currently Amended) A method for stopping polishing of a substrate at a desired endpoint, comprising:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic is a pH level of the byproducts, and wherein the monitoring step comprises ~~The method of claim 1, further comprising~~ sensing the pH of the byproducts[[.]]; and

stopping removal of material from the substrate when the characteristic of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the desired endpoint of the substrate.

15. (Currently Amended) A method for stopping polishing of a substrate at a desired endpoint, comprising:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic is a conductivity of the byproducts, and wherein the monitoring step comprises ~~The method of claim 1, further comprising~~ sensing the conductivity of the byproducts[[.]]; and

stopping removal of material from the substrate when the characteristic of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the desired endpoint of the substrate.

16. (Currently Amended) A method for stopping polishing of a substrate at a desired endpoint, comprising:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic is a chemical composition of the byproducts, and wherein the monitoring step comprises ~~The method of claim 1, further comprising~~ determining the chemical composition of the byproducts[[.]]; and

stopping removal of material from the substrate when the characteristic of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the desired endpoint of the substrate.

17. (Previously Presented) The method of claim 1 wherein the temperature of the byproducts has a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium, and wherein the method further comprising adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the

underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent.

18. (Previously Presented) The method of claim 1 wherein the act of sensing the temperature of the byproducts comprises holding the byproducts in a separate cell, adding a reactive agent to the byproducts that detects the presence of material from the underlying layer in the byproducts, and sensing the temperature of the byproducts.

19. (Currently Amended) A method for stopping mechanical and chemical-mechanical polishing of a substrate at an endpoint, the method comprising:

monitoring a value of a polishing component related to material removed from the substrate during a planarization process, the component being comprised of byproducts of the planarization process and the value being a pH level of the byproducts, wherein monitoring comprises ~~The method of claim 5, further comprising~~ sensing the pH of the byproducts[[.]]; and

stopping removal of material from the substrate when the pH is a predetermined value.

20. (Currently Amended) A method for stopping mechanical and chemical-mechanical polishing of a substrate at an endpoint, the method comprising:

monitoring a value of a polishing component related to material removed from the substrate during a planarization process, the component being comprised of byproducts of the planarization process and the value being a conductivity of the byproducts, wherein monitoring comprises ~~The method of claim 5, further comprising~~ sensing the conductivity of the byproducts[[.]]; and

stopping removal of material from the substrate when the conductivity reaches a predetermined value.

21. (Currently Amended) A method for stopping mechanical and chemical-mechanical polishing of a substrate at an endpoint, the method comprising:

monitoring a value of a polishing component related to material removed from the substrate during a planarization process, the component being comprised of byproducts of the planarization process and the value being a chemical composition of the byproducts, wherein monitoring comprises ~~The method of claim 5, further comprising~~ determining the chemical composition of the byproducts[[.]]; and

stopping removal of material from the substrate when the chemical composition reaches a predetermined value.

22. (Previously Presented) The method of claim 5 wherein the temperature of the byproducts has a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium, and wherein the method further comprising adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent.

23. (Previously Presented) The method of claim 5 wherein the act of sensing the temperature of the byproducts comprises holding the byproducts in a separate cell, adding a reactive agent to the byproducts that detects the presence of material from the underlying layer in the byproducts, and sensing the temperature of the byproducts.

24. (Currently Amended) A method for stopping polishing of a semiconductor substrate at an endpoint location, comprising:

detecting a characteristic of a polishing component, the component including material removed from a planarized surface of the substrate during a planarization process, and the component includes byproducts generated by the planarization process, and the characteristic is a pH level of the byproducts, and wherein detecting comprises ~~The method of claim 7, further comprising~~ sensing the pH of the byproducts[[.]]; and

stopping the planarization process when the pH reaches a predetermined value.

25. (Currently Amended) A method for stopping polishing of a semiconductor substrate at an endpoint location, comprising:

detecting a characteristic of a polishing component, the component including material removed from a planarized surface of the substrate during a planarization process, and the component includes byproducts generated by the planarization process, and the characteristic is a conductivity level of the byproducts, and wherein detecting comprises ~~The method of claim 7, further comprising~~ sensing the conductivity of the byproducts[[.]]; and

stopping the planarization process when the conductivity reaches a predetermined value.

26. (Currently Amended) A method for stopping polishing of a semiconductor substrate at an endpoint location, comprising:

detecting a characteristic of a polishing component, the component including material removed from a planarized surface of the substrate during a planarization process, and the component includes byproducts generated by the planarization process, and the characteristic is a chemical composition of the byproducts, and wherein detecting comprises ~~The method of claim 7, further comprising~~ determining the chemical composition of the byproducts[[.]]; and

stopping the planarization process when the chemical composition reaches a predetermined value.

27. (Previously Presented) The method of claim 7 wherein the temperature of the byproducts has a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium, and wherein the method further comprising adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent.

28. (Previously Presented) The method of claim 7 wherein the act of sensing the temperature of the byproducts comprises holding the byproducts in a separate cell, adding a reactive agent to the byproducts that detects the presence of material from the underlying layer in the byproducts, and sensing the temperature of the byproducts.

29. (Previously Presented) The method of claim 8 further comprising adding a reactive agent to a planarizing solution and depositing the planarizing solution onto the planarizing surface of the polishing pad, the reactive agent producing a first difference between the first and second temperatures that is greater than a second difference between the first and second temperatures without the reactive agent in the planarizing solution.

30. (Previously Presented) The method of claim 29 wherein the planarizing solution comprises an H_2O_2 based planarizing liquid and the reactive agent is one of the compounds selected from the group consisting of HCl, NH_4OH and KOH.

31. (Previously Presented) The method of claim 8 , further comprising:

holding byproducts produced by polishing the substrate in a separate cell; and

adding a reactive agent to the byproducts in the cell, the reactive agent detecting the presence of material from the underlying layer in the byproducts.

32. (Previously Presented) The method of claim 10, further comprising adding a reactive agent to a planarizing solution and depositing the planarizing solution onto the planarizing surface of the polishing pad, the reactive agent producing a first difference between the first and second heat ranges that is greater than a second difference between the first and second heat ranges without the reactive agent in the planarizing solution.

33. (Previously Presented) A method for determining when the polishing of a substrate has reached an endpoint, the substrate having a cover layer and an underlying layer under the cover layer, the method comprising monitoring a characteristic of a polishing

component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic is a temperature of the byproducts, and wherein the monitoring step comprises sensing the temperature of the byproducts.

34. (Currently Amended) A method for determining when the polishing of a substrate has reached an endpoint, comprising:

monitoring a characteristic of a polishing component indicative of material being removed from a planarized surface of the substrate, wherein the component comprises byproducts produced by polishing the substrate and the characteristic comprises ~~The method of claim 33 wherein the sensing step comprises~~ measuring a ~~temperature~~ pH level of a planarizing liquid flowing off of a polishing pad[[.]]; and

stopping the removal of material from the substrate when the pH reaches a predetermined value.

35. (Currently Amended) A method for determining when the polishing of a substrate has reached an endpoint, comprising:

monitoring a characteristic of a planarizing liquid flowing off of a polishing pad wherein the liquid is comprised of byproducts produced by polishing the substrate and the characteristic comprises ~~The method of claim 33 further comprising~~ sensing the pH of the byproducts[[.]] in the planarizing liquid flowing off of the polishing pad; and

stopping the removal of material from the substrate when the pH reaches a predetermined value.

36. (Currently Amended) A method for determining when the polishing of a substrate has reached an endpoint, comprising:

monitoring a characteristic of a planarizing liquid flowing off of a polishing pad wherein the liquid is comprised of byproducts produced by polishing the substrate and the characteristic comprises ~~The method of claim 33, further comprising~~ sensing the conductivity of the byproducts[[.]] in the planarizing liquid flowing off of the polishing pad; and

stopping the removal of material from the substrate when the pH reaches a predetermined value.

37. (Previously Presented) The method of claim 33, further comprising determining the chemical composition of the byproducts.

38. (Previously Presented) The method of claim 33 wherein the temperature of the byproducts has a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium, and wherein the method further comprising adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent.

39. (Previously Presented) The method of claim 33 wherein the act of sensing the temperature of the byproducts comprises holding the byproducts in a separate cell, adding a reactive agent to the byproducts that detects the presence of material from the underlying layer in the byproducts, and sensing the temperature of the byproducts.

40. (Previously Presented) A method for determining when the polishing of a substrate has reached an endpoint, the method comprising detecting a change in heat at a front side of the substrate, the heat at the front side of the substrate being different when a cover layer of the substrate engages a polishing medium than when at least a portion of an underlying layer of the substrate under the cover layer engages the polishing medium, wherein detecting a change in heat at the front side of the substrate comprises sensing a temperature of byproducts produced by polishing the substrate.

41. (Previously Presented) The method of claim 40 wherein the temperature sensing act comprises measuring a temperature of a planarizing solution flowing off of the polishing pad.

42. (Previously Presented) The method of claim 40 wherein the temperature of the byproducts has a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium, and wherein the method further comprising adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent.

43. (Previously Presented) The method of claim 40 wherein the act of sensing the temperature of the byproducts comprises holding the byproducts in a separate cell, adding a reactive agent to the byproducts that detects the presence of material from the underlying layer in the byproducts, and sensing the temperature of the byproducts.

44. (Previously Presented) A method for stopping polishing of a substrate at an endpoint, the substrate having a cover layer and an underlying layer under the cover layer, the method comprising:

monitoring a temperature of a polishing component that is in contact with byproducts produced by polishing the substrate, the temperature of the polishing component having a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium;

adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent; and

stopping removal of material from the substrate when the temperature of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the endpoint of the substrate.

45. (Previously Presented) The method of claim 44 wherein the act of monitoring a temperature of a polishing component that is in contact with byproducts produced by polishing the substrate comprises monitoring the temperature of the byproducts.

46. (Previously Presented) The method of claim 45 wherein the act of monitoring the temperature of the byproducts comprises holding the byproducts in a separate cell, adding a reactive agent to the byproducts that detects the presence of material from the underlying layer in the byproducts, and sensing the temperature of the byproducts.

47. (Currently Amended) A method for stopping polishing of a substrate at an endpoint, the substrate having a cover layer and an underlying layer under the cover layer, the method comprising:

monitoring a pH level of a polishing component that is in contact with byproducts produced by polishing the substrate, the pH level of the polishing component having a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium;

adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent;

~~The method of claim 44, further comprising~~ sensing the pH of the byproducts[[.]]; and

stopping removal of material from the substrate when the pH level of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the endpoint of the substrate.

48. (Currently Amended) A method for stopping polishing of a substrate at an endpoint, the substrate having a cover layer and an underlying layer under the cover layer, the method comprising:

monitoring a conductivity of a polishing component that is in contact with byproducts produced by polishing the substrate, the conductivity of the polishing component having a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium;

adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent;

~~The method of claim 44, further comprising~~ sensing the conductivity of the byproducts[[.]]; and

stopping removal of material from the substrate when the conductivity of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the endpoint of the substrate.

49. (Currently Amended) A method for stopping polishing of a substrate at an endpoint, the substrate having a cover layer and an underlying layer under the cover layer, the method comprising:

monitoring a chemical composition of a polishing component that is in contact with byproducts produced by polishing the substrate, the chemical composition of the polishing component having a first value when the cover layer of the substrate engages a polishing medium and a second value when a portion of an underlying layer of the substrate under the cover layer engages the polishing medium;

adding a reactive agent to a planarizing liquid and depositing the planarizing liquid onto a planarizing surface of a polishing pad, the reactive agent selectively reacting with

the material of the underlying layer to produce a greater difference between the first and second values with the reactive agent than without the reactive agent;

~~The method of claim 44, further comprising~~ determining the chemical composition of the byproducts[[.]]; and

stopping removal of material from the substrate when the chemical composition of the polishing component is at a predetermined value that indicates the material being removed from the planarized surface is at the endpoint of the substrate.